



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,631	02/24/2005	Jorg Rosch	2002P09821 WOUS	8341

7590 05/08/2006

Siemens Corporation
Intellectual Property Department
170 Wood Avenue south
Iselin, NJ 08830

EXAMINER

KANG, JULIANA K

ART UNIT	PAPER NUMBER
----------	--------------

2874

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/525,631	Applicant(s) ROSCH ET AL.	
	Examiner Juliana K. Kang	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Applicant's communication filed on February 28, 2006 has been carefully studied by the Examiner. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Thus this action is made final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Mehlhorn et al (U.S. Patent 6,285,808 B1).

Mehlhorn et al discloses an opto-electronic circuit comprising: an optical side connected optically to an optical coupling element (9) positioned within a connection opening (8) formed within an optical layer (1) of a multi-layer printed circuit board (2 and 3), the electro-optical device being electrically connected with at least one electrically conductive path (5) formed on an electrically insulating layer (see column1 line 52) of the multi-layer printed circuit board positioned above the optical layer whereby an optical signal exiting the electro-optical device is redirected substantially orthogonally (see column 3 lines 52-56) by the optical coupling element to an optical waveguide (10) formed within the optical layer of the multi-layer printed circuit board.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehlhorn et al and further in view of Su (U.S. Patent 6,787,919 B2).

Regarding claims 9 and 18, as described above Melhorn et al disclose the opto-electronic circuit except a plurality of optical components including a multiplexer, demultiplexer, optical fiber, micro-electrical mechanical system and amplifier. Even though the drawings and the embodiment show only one electro-optical component, Melhorn teaches applying the invention to a plurality of electro-optical components (see column 1 lines 64-65). It is typical to include many optical functions on a circuit board. Su teaches that opto-electronic circuits include, but are not limited to, multiplexer, demultiplexer, filters, optical add/drop (de)multiplexers, switches, and opto-electronic integration devices (see column 1 lines 12-21). Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply various optical components and/or opto-electronic components such as a multiplexer, demultiplexer, optical fiber, micro-electrical mechanical system and amplifier in Melhorn as taught by Su in order to provide necessary optical processing with reliable operation and simple and automated fabrication (see column 1 line 47-49).

Regarding claims 10-15 and 17, Mehlhorn et al do not explicitly teach the materials used for the multilayer printed circuit board and the optical conductor path. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use well known materials, such as organic and/or inorganic materials for the printed circuit board and glass and/or polymers for the optical conductor path, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Also doping the conductor path is well known to adjust the refractive index of the path.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mehlhorn et al and Su (U.S. Patent 6,787,919 B2) and further in view of Yoshimura et al (U.S. Patent 6,706,546 B2).

As described above Mehlhorn et al and Su teach the claimed invention except an additional optical conductor path that is connected to the other optical conductor path. Yoshimura et al teach having many optical conductor paths that are stacked together (see Fig. 37-1, 157, 161). This configuration provides compactness for opto-electronic circuit comprising a plurality of optical and opto-electronic components. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply teaching of Yoshimuar et al of using additional optical conductor paths in Mehlhorn et al and Su to make the opto-electrical circuit more compact.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshimura et al (U.S. Patent 6,693,736 B1) and Ouchi (U.S. Patent 6,477,286 B1) teaches an opto-electronic circuit.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

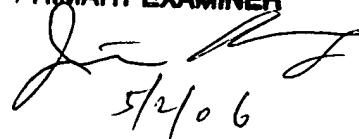
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (571) 272-2348. The examiner can normally be reached on Monday through Thursday 8:00 AM-2:00 PM.

Art Unit: 2874

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JULIANA KANG
PRIMARY EXAMINER



5/2/06